

AMENDMENTS TO THE CLAIMS

We claim:

1. (currently amended) A system which is suitable as a catalyst for the hydrocyanation of olefinically unsaturated compounds and comprises;

- a) $\text{Ni}(0)_n$,
- b) a compound which complexes $\text{Ni}(0)$ as a ligand and comprises phosphites, phosphonites or mixtures thereof,
- c) a Lewis acid

and

- d) a compound of the formula M R_n , where
c) and d) being are different, and

where

[M:] M is selected from Al or Ti,

[R:] R is selected from identical or different monovalent alkoxy radicals, in which ~~case a plurality of the~~ alkoxy radicals may be bonded together, and ~~additionally, in the case that if~~ if $\text{M} = \text{Al}$, R may also be identical or different monovalent alkyl radicals, in which ~~case a plurality of the~~ alkyl radicals may be bonded together or one or more alkyl radicals may be bonded to one or more of the abovementioned alkoxy radicals, and

[n:] n is the valency of M.

2. (currently amended) The system according to claim 1, wherein R_n ~~in the case of~~ is an alkoxy radical selected from the group consisting of, is methoxy, ethoxy, 1-propoxy, 2-propoxy, 1-n-butoxy, 2-n-butoxy, 1-isobutoxy ~~or~~ and 2-isobutoxy.

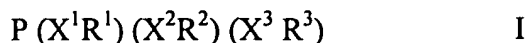
3. (currently amended) The system according to claim 1, wherein R, ~~in the case of~~ is an alkyl radical, is selected from the group consisting of methyl, ethyl, 1-propyl, 2-propyl, 1-n-butyl, 2-n-butyl, 1-isobutyl or 2-isobutyl.
4. (currently amended) The system according to claim 1 ~~or~~ 2, wherein compound d) is a titanium tetraalkoxide.
5. (currently amended) The system according to claim 1 ~~or~~ 2, wherein compound d) is an aluminum trialkoxide.
6. (currently amended) The system according to claim 1 ~~or~~ 3, wherein compound d) is a trialkylaluminum.
7. (currently amended) The system according to ~~any of claims 1 to 6~~ claim 1, wherein the R radicals in compound d) are the same.
8. (currently amended) A process for hydrocyanating an olefinically unsaturated compound comprising contacting the olefinically unsaturated compound in the presence of an Ni(0)-comprising with the catalyst system, which comprises using a system according to any of claims 1 to 7 as the Ni(0)-comprising catalyst system claim 1.
9. (currently amended) The process according to claim 8, wherein the olefinically unsaturated compound comprises a functional group selected from the group consisting of -CN, -COOR¹, and -CONR²R³

where R¹, R², R³[:] are each independently, ~~in the case that R² and R³ are~~ the same or different, H or alkyl.

10. (currently amended) The process according to claim 8, wherein the olefinically unsaturated compound used is a compound of the formula (C₄H₇)-X
where X[:] is functional group selected from the group consisting of -CN, -COOR¹, and -CONR²R³

where R¹, R², R³[:] are each independently, ~~in the case that R² and R³ are~~ the same or different, H or alkyl.

11. (original) The process according to claim 8, wherein the olefinically unsaturated compound used is a linear pentenenitrile.
12. (original) The process according to 8, wherein the olefinically unsaturated compound used is 3-pentenenitrile or 4-pentenenitrile.
13. (new) A catalyst system comprising:
- a zero-valent nickel complex comprising phosphites, phosphonites or mixtures thereof;
 - a Lewis acid;
 - a compound of formula MR_n , which is different from the Lewis Acid, and wherein M is selected from Al or Ti and R is selected from identical or different monovalent alkoxy radicals, in which of alkoxy radicals may be bonded together, and if $M = Al$, R may also be identical or different monovalent alkyl radicals, in which the alkyl radicals may be bonded together or one or more alkyl radicals may be bonded to one or more of the abovementioned alkoxy radicals, and n is the valency of M;
 - the catalyst system used for the hydrocyanation of olefinically unsaturated compounds.
14. (new) The catalyst system of claim 13 wherein the compound of formula MR_n is selected from a titanium tetraalkoxide, an aluminum trialkoxide or a trialkylaluminum.
15. (new) The catalyst system of claim 14 wherein the olefinically unsaturated compound comprises a functional group selected from the group consisting of -CN, $-COOR^1$ [,] and $-CONR^2R^3$
- where R^1, R^2, R^3 are each independently, the same or different, H or alkyl.
16. (new) The process according to 14, wherein the olefinically unsaturated compound used is 3-pentenenitrile or 4-pentenenitrile.
17. (new) The catalyst system of claim 13 wherein the zero-valent nickel complex comprises a ligand of formula I

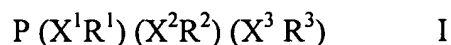


wherein X^1 , X^2 and X^3 are each independently oxygen or a single bond, and

R^1 , R^2 and R^3 are each independently alkyl radicals having from 1 to 10 carbon atoms or an aryl group.

18. (new) The catalyst system of claim 17 wherein R^1 , R^2 and R^3 are each independently selected from the group consisting of phenyl, o-tolyl, m-tolyl and p-tolyl.

19. (new) The catalyst system of claim 1 wherein the zero-valent nickel complex comprises a ligand of formula I



wherein X^1 , X^2 and X^3 are each independently oxygen or a single bond, and

R^1 , R^2 and R^3 are each independently alkyl radicals having from 1 to 10 carbon atoms or an aryl group.

20. (new) The catalyst system of claim 19 wherein R^1 , R^2 and R^3 are each independently selected from the group consisting of phenyl, o-tolyl, m-tolyl and p-tolyl.